

IDAHO

DEPARTMENT OF FISH AND GAME

Jerry M. Conley, Director

RAPID RIVER HATCHERY

Annual Report



1 October 1983 - 30 September 1984

by
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RAPID RIVER HATCHERY

Annual Report

ABSTRACT

During the fish year, approximately 3.7 million spring chinook smolts from 1982 brood were planted from this hatchery. Over 3.2 million were released into Rapid River, and over 500,000 were hauled to Hells Canyon.

Net production throughout this period totaled 175,731 pounds. Nearly 207,000 pounds of O.M.P. feed was fed for a conversion of 1.18:1.

This year's spring chinook run totaled 2,356 fish. They arrived at the trap facility from May 21 through July 30, 1984. Eggtaking operations from mid-August to mid-September produced nearly 3.1 million eggs collected from 821 females.

Spring chinook arrivals at Rapid River Hatchery during 1984 made up approximately 4% of the Bonneville Dam count and 29% of the Lower Granite Dam count.

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OBJECTIVES

1. To report all project functions of Rapid River Hatchery occurring during the fish year.
2. To evaluate brood year returns of spring chinook salmon and inventory other fish species.
3. To report the distribution of eggs and juvenile spring chinook salmon.
4. To report improvements and project recommendations for the operation of Rapid River Hatchery.

INTRODUCTION

Rapid River Hatchery is located seven miles southwest of Riggins, Idaho, in Idaho County. This facility was constructed in the early 1960's and is owned by Idaho Power Company. The hatchery is funded by Idaho Power Company as part of mitigation requirements for losses of spring chinook salmon. The hatchery produces spring chinook for plants in Rapid River and Hells Canyon.

In past years, this hatchery has produced fingerling chinook for Red River Pond and various other locations throughout Idaho. Surplus eggs, when available, have also been utilized by many other projects. The water source for all functions of this hatchery is Rapid River, a tributary to the Little Salmon River.

This hatchery project utilizes an adult trapping facility, several adult holding ponds, two earthen rearing ponds and 12 concrete raceways. Hatchery buildings include an Incubator building with 50 double-stacked Heath incubators, an office-shop complex, public restrooms, three permanent employee residences and a three-bedroom mobile home for temporary housing.

Spring Chinook Salmon Smolts - 1982 Brood Year

Enumeration of Downstream Migrants

Smolt plants in Rapid River from the 1982 brood year totaled approximately 3,246,197 fish which averaged 20 per pound and nearly 142 millimeters in length. Smolt migration from the hatchery appeared to start the first week of March, and a final pond flush was made on April 10, 1984. General observation of Rapid River during the following weeks indicated that nearly all of the smolts had left the area. In addition to this number, approximately 500,850 smolts from the 1982 brood were transported to Hells Canyon Dam and released on March 20 and 21, 1984. The average size of these fish was 27 per pound and nearly 125.0 millimeters in length.

A total of 85,664 coded-wire tagged smolts from the 1982 brood were included in the Hells Canyon release. The Rapid River release smolts contained approximately 23,840 smolts with brands only.

Coded-Wire Tagging

During the week of March 12 through March 19, 1984, the tagging crew worked with two groups of 1982 brood smolts. This data is listed as follows:

Rapid River Release

Approximately 23,840 fish from this group were freeze branded with a "R.D-J-3" but contained no tags. These fish were marked for timing studies on the downstream migration of smolts from Rapid River. The fish were returned to rearing pond #1 after branding so that they could later be released with the remaining smolts from this pond system. These fish averaged 20 per pound and 140 mm in length at the time of release.

Hells Canyon Release

One group of 43,202 fish were freeze branded and tagged with data code 10-27-4 and "R.D-J-1." Another additional group of 42,462 fish were freeze branded and tagged with data code 10-27-5 and "R.D-J-1." These fish were trucked and released below Hells Canyon Dam on March 20 and 21, 1984, at an average size of 27 per pound and 125 mm in length. Both groups will be used to indicate the success of the production release at Hells Canyon.

Rearing Problems - Diseases and Treatments Used

No major problems occurred during rearing of the 1982 brood year group. Prophylactic treatments with benzalkonium chloride were administered throughout late summer for the prevention of bacterial gill disease. Treatment levels ranged from 2 to 3 ppm with an initial dose of cutrine at 3 ounces per cfs. These treatments were done regularly at two-week intervals.

Feed Conversion Rates

Net production from Rapid River Hatchery during the year totaled 175,731 pounds. During rearing, a total of 207,064 pounds of Oregon Moist Pellet feed was used at a total cost of \$90,420.34. The resulting feed conversion was 1.18:1.

Table 1. Numbers and lengths of coded-wire tag returns to Rapid River Hatchery, 1984.

		3-yr-olds		4-yr-olds		5-yr-olds		
		'81 brood '83 release Hells Canyon		'80 brood '82 release Rapid River		'79 brood '81 release Rapid River		
		<u>Data code</u>		<u>Data code</u>		<u>Data code</u>		
Cm	In.	102318	102717	102414	102415	102236	102237	102238
48.3	19							
50.8	20							
53.3	21							
55.9	22							
58.4	23							
60.9	24							
63.5	25							
66.0	26		1	2	2			
68.6	27			1	2			
71.1	28			8	1			
73.7	29			3	4			
76.2	30				1			
78.7	31			2	1			
81.3	32						1	2
83.8	33							
86.4	34					1	1	1
88.9	35						2	2
91.4	36					1	1	1
94.0	37							
96.5+	38+							
Totals			1	16	11	2	6	9
45 tags recovered								

Spring Chinook Salmon Juveniles - 1983 Brood Year

Enumeration

On October 1, 1983, approximately 3,215,237 eggs from brood year 1983 were on hand in incubators at Rapid River Hatchery. These originated from Rapid River adults spawned in August-September, 1983. No surplus eggs were available for distribution to other projects this year. Water temperature during incubation and initial rearing were normal and ranged from 32 F to 50 F. During May and June, 1984, nearly 3,065,000 fingerlings were transferred from the raceways to the earthen rearing ponds. These fish averaged 280 per pound at this time.

Rearing Problems - Diseases and Treatments Used

Initial rearing mortalities while fish were in the raceways were virtually nonexistent. We feel that the OP-4 diet has been a primary factor in reducing losses during the early rearing phase. After the fish were ponded, a 21-day prophylactic treatment with erythromycin-medicated feed was initiated. This was done in early July when both pond groups averaged 80 per pound. This treatment appears beneficial for prevention of bacterial kidney disease outbreaks. Losses due to bacterial gill disease totaled nearly 100,000 even though prophylactic treatments with benzalkonium Chloride at 2 ppm were done bi-weekly throughout the summer. Rearing pond #2 had a water quality problem which accounted for this fish loss. Some pond revisions and changes in loading densities are currently planned for next year, which should hopefully alleviate problems with bacterial gill disease.

Spring Chinook Salmon Adults - Returns to Rapid River, 1984

Enumeration

A total of 2,356 spring chinook salmon entered the Rapid River trap between May 21 and July 30, 1984. This year's run peak occurred during the week of July 8-15, when 785 fish were counted. Figure 1 shows the timing of the run.

The 2,356 run total was comprised of 809 males, 896 females and 651 jakcs. Age-class composition of the run showed 651 three-year-olds (28%), 1,349 four-year-olds (57%) and 356 five-year-olds (15%). Age-class composition was determined by lengths and coded-wire tag recovery information.

The Rapid River chinook run made up approximately 4.6% of the Bonneville Dam count and 29.7% of the Lower Granite Dam count this year.

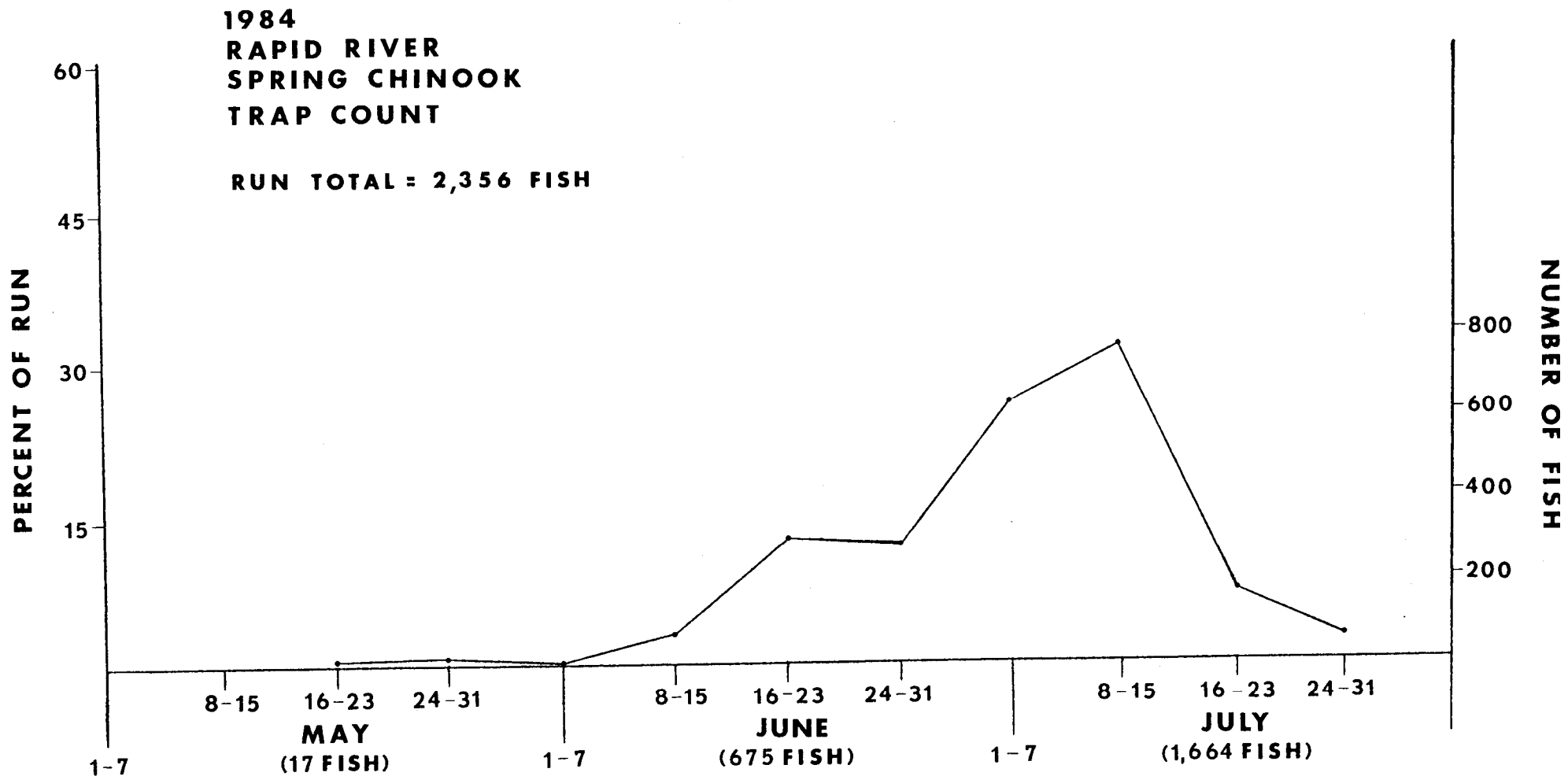


Figure 1. Weekly arrival numbers - 1984 spring chinook returns.

Observation of Injuries

Nearly 15% of this year's chinook run (354 fish) were injured prior to arriving at the trap. These were listed as follows: nitrogen blisters (233 fish), gaff wounds (2 fish), gillnet (34 fish) and other wounds (85 fish). These injuries were treated at the trap facility with a direct application of malachite green solution.

Marked Returns - Coded-Wire Tag Data

All chinook entering the trap facility were examined for tags and marks. Jaw tag numbers were recorded and all adipose-fin-clipped fish were dart tagged to aid recapture throughout the spawning season. A total of 68 snouts were sent to the Lewiston Lab for tag recovery at the completion of the spawning season, and 45 of these had tags.

Tag analysis data was available from six smolt release groups this year. One tag from data code group (102717) was recovered representing the Hells Canyon release on the Snake River in 1983. Sixteen tags from data code 102414 were recovered representing the "control group" from the vibrio vaccination project on 1980 brood smolts. Eleven tags from data code 102415 were recovered representing the vibrio vaccinated, 1980 brood smolts. Seventeen were tags recovered from 5-year-old returnees during 1984. These were from three tag groups. Two tags were from data code 102236 representing the vibrio vaccinated fish group of 1979 brood origin were recovered. Six tags were from data code 102237 representing the "control group" from the vibrio vaccination project of 1979 brood smolts. An additional nine tags were recovered from data code group 102238 which represented the "normal" hatchery release group into Rapid River, also from 1979 brood origin. Tag recovery data is presented in Table 1.

To summarize the tag returns for 1984, it appears that the vibrio vaccination project may not have been as beneficial as originally anticipated. It will take one more year of returns to completely evaluate the vibrio vaccination project.

Prespawning Mortality - Treatment of Adults

Prespawning losses, including 14 trap mortalities, totaled 50 males and 75 females (7.3% of the adult count). Losses directly due to kidney disease were minimal this season although 34 mortalities were noted to have "KD" lesions. A total of 60 spawned carcasses were sampled for incidence of kidney disease bacteria, of which 53.3% were confirmed positive by lab personnel.

All chinook were given subcutaneous injections of erythromycin as they arrived at the trap facility. This was administered at the

rate of 5 mg per pound of fish. This procedure is felt to have been beneficial for our program by reducing kidney disease mortality prior to spawning.

Mortality losses directly due to fungus was virtually nonexistent this season. Adequate fungus control was attained with the use of malachite green flushes every other day at the rate of one ppm throughout the holding and spawning period.

Spawntaking and Enumeration of Eggs

Spawntaking started on August 8 and was completed on September 14, 1984. During this time, a total of 821 females were spawned to produce approximately 3,125,911 eggs. Each female averaged 3,807 eggs at nearly 100 per ounce in size by the Von Bayer size estimate.

Most of the eggs taken this year were water-hardened in a two ppm solution of erythromycin. Eggs were then placed in Heath incubators. They developed to eye-up at an average rate of 82%. This year, all eyed eggs were enumerated by the displacement method, which appears to be more accurate.

Water-hardening Eggs

Four groups of eggs from the same spawntake were water-hardened this season in various strengths of "Argentyne" ranging from 1:50 to 1:300. A control group was water-hardened in erythromycin. All eggs were water-hardened for 30 minutes and placed in the Heath incubators. Eggs and fry were monitored throughout the incubation period, and fry samples were sent to the lab to be checked for bacteria. No appreciable difference was noted in eye-up percentages between groups; however, the best eye-up was on the 1:50 sample. Lab testing results also indicated that the incidence of bacteria was nearly the same on all egg/fry groups. It appears that further work might be necessary to establish the benefits of this procedure. This experiment did, however, show that no direct losses could be attributed to the use of Argentyne.

Distribution of Eggs

There were no excess eggs available for other projects this season due to the below normal egg take at Rapid River Hatchery.

Disposition of Carcasses

All the injected carcasses, totaling 1,705, were buried this season. Salvageable carcasses, including 8 trap mortalities and 438 Jacks, were given to the Nez Perce tribe during the 1984 season.

INVENTORY OF MISCELLANEOUS SPECIES

Spring Chinook Adults - Hells Canyon Stock

No chinook adults were available this season for transfer to Rapid River from the Hells Canyon trapping facility. Exceptionally high flows inundated the trap during the trapping season.

Summer Chinook Adults

A total of 27 jacks and 117 adult chinook salmon were classified as summer-run fish from July 25 through August 21, 1984. These fish were examined and returned to Rapid River to spawn.

Steelhead Adults

The adult trapping facility was operated from April 27 through September 10, 1984. A total of 61 adult steelhead were examined and released back into Rapid River to spawn. Approximately 98% of these appeared to be wild fish. No steelhead were trapped after June 17.

Bull Trout

Throughout the time the Rapid River trapping facility was operated, a total of 342 bull trout were observed. This is a substantial increase over the past few years. Fish lengths varied to a maximum of nearly 20 inches.

Other Species

Incidental numbers of juvenile rainbow or steelhead were observed at the trap facility this season. No whitefish, cutthroat or rough fish were recorded this year.

HATCHERY IMPROVEMENTS AND MAINTENANCE

During the past few years, many things have been done to upgrade the condition and appearance of Rapid River Hatchery. We are greatly appreciative to Idaho Power Company for these improvements which have resulted in many compliments from the general public.

This past season, improvements included the installation of skirting around the temporary crew quarters and the construction of a retainer wall behind residence number one. A significant improvement was the new headgate screening system. We also started using a mobile blower fish feeder and removed the stationary feeders from the rearing ponds.

Water heaters were replaced in the office building and in one residence. The office restroom was repaired, and some work was done at the Rapid River trail head. The hatchery park was also maintained for the many public user groups.

MISCELLANEOUS ACTIVITIES

During the year, approximately 3,975 people visited Rapid River Hatchery. This number is just slightly higher than in 1983.

Personnel from the hatchery participated in various other activities including smolt transportation at Lower Granite Dam, assisting on regional projects and egg collection for the Red River program.

RECOMMENDATIONS

As mentioned earlier in this report, we greatly appreciate the many improvements that Idaho Power has made to modernize this hatchery project.

In the coming year, we will focus our attention more on rearing fish and less on facility improvements. I would like to list two areas for future consideration: 1) As mentioned in past reports, the rearing pond outlet screening system could be improved with the installation of power-driven drum screens. This would definitely be advantageous for maintaining pond inventories; and 2) With increases in chinook returns to Rapid River Hatchery, it would be beneficial, at some point in time, to improve the holding and spawning areas.

ACKNOWLEDGEMENTS

The crew at Rapid River Hatchery would like to express their appreciation for assistance given during the year by the following people: Rodney Duke, hatchery personnel from McCall and Oxbow hatcheries, enforcement personnel from Region 2, Larry Wimer and staff and the Idaho Power Company's maintenance crew.

Hatchery staffing during the year included: Thomas G. Levendofske, Fish Hatchery Superintendent III; Pat Chapman, Fish Hatchery Superintendent I; John Stevens, Fish Culturist; Jerry McGehee, Fish Culturist; Tim Holder and Todd Garlie, Bio-Aides; Joe Galli and Ken Partridge, Laborers; and Sean Dana, CETA worker.

APPENDICES

Appendix I. Returns of spring chinook salmon to Rapid River Hatchery, survival to spawning, and enumeration of eggs, 1964-1984.

Return year	Snake R. returns (adults)	Rapid R. returns (adults)	Rapid R. returns (jacks)	Prespawning mortality percentage	Number of females spawned	Number of eggs per female	Number of eggs taken
1964	349			16%	182	4,874	887,000
1965	408			21%	133	4,541	604,000
1966	1,511			18%	621	3,697	2,296,000
1967	974		1,039	11%	581	3,537	2,055,000
1968	351	3,416	740	2%	1,809	3,671	6,540,000
1969	672	2,817	1,043	8%	1,415	3,655	5,151,697
1970		6,470	887	10%	3,520	4,136	14,560,280
1971		3,357	1,754	19%	1,722	3,507	6,038,785
1972		12,310	943	15%	3,825	3,941	15,072,604
1973		17,054	286	37%	3,454	3,912	13,510,465
1974		3,457	538	27%	1,756	3,924	6,890,186
1975		4,428	573	7%	2,184	3,894	8,503,606
1976		6,342	1,765	15%	3,055	3,762	11,492,878
1977		7,767	437	11%	3,781	3,745	14,160,330
1978		5,735	34	21%	2,350	4,266	10,026,888
1979		3,054	350	31%	1,141	4,950	5,648,722
1980		1,528	432	30%	543	3,235	1,756,827
1981		3,087	176	7%	1,666	3,675	6,122,273
1982		3,646	30	11%	1,883	3,973	7,482,330
1983		1,864	94	15%	859	4,015	3,449,471
1984		1,705	651	7%	821	3,807	3,125,911

*In recent years, prespawning mortality included any female mortality prior to spawning and all male mortality up to two weeks after the beginning of egg taking operations.

Appendix 11. Summary of spring chinook adults to Rapid River by brood year.

Brood year	Year released	Number released	3 yr olds	Year returned	4 yr olds	Year returned	5 yr olds	Year returned	Total brood year return	% return from plant
1964	1966	580,000	1,039	1967	3,422	1968	197	1969	4,658	0.80
1965	1966-67	480,000	740'	1968	2,620	1969	874	1970	4,234	0.89
1966	1968	1,460,000	1,043	1969	5,596	1970	364	1971	7,003	0.48
1967	1969	900,000	887	1970	2,992	1971	1,544	1972	5,416	0.60
1968	1970	3,172,000	1,754	1971	10,766	1972	4,403	1973	16,923	0.53
1969	1971	2,718,700	943	1972	12,654	1973	1,759	1974	15,356	0.56
1970	1972	2,809,200	285	1973	1,698	1974	386	1975	2,370	0.08
1971	1973	2,908,425	538	1974	4,206	1975	1,120	1976	5,864	0.20
1972	1974	2,707,917	573	1975	5,222	1976	634	1977	6,429	0.24
1973	1975	3,373,700	1,765	1976	7,110	1977	1,845	1978	10,720	0.32
1974	1976	3,358,940	437	1977	3,890	1978	2,413	1979	6,740	0.20
1975	1977	3,170,922	34	1978	598	1979	46	1980	678	0.02
1976	1978	2,413,678	350	1979	1,482	1980	146	1981	1,978	0.08
1977	1979	2,866,993	432	1980	3,068	1981	557	1982	4,057	0.14
1978	1980	2,811,593	176	1981	3,089	1982	1,026	1983	4,291	0.15
1979	1981	2,520,045	30	1982	838	1983	356	1984	1,224	0.05
1980	1982	1,473,733	94	1983	1,349	1984		1985		
1981	1983	2,998,103	651	1984		1985		1986		
1982	1984	3,246,197		1985		1986		1987		

Appendix III. Summary of eggs, fingerlings and smolts planted from Rapid River Hatchery, 1964-1984.

1964 Brood:	887,000	Eggs taken, No eggs fingerlings, or smolts planted or transferred.
	580,000	smolts released into Rapid River, 1966. 22.6/lb.
1965 Brood:	604,000	Eggs taken. No eggs, fingerlings, or smolts planted or transferred.
	480,000	smolts released into Rapid River, 1967. 23.2/lb.
1966 Brood:	2,296,000	Eggs taken, No eggs fingerlings, or smolts planted or transferred.
	1,460,000	smolts released into Rapid River, 1967. 25.0/lb.
1967 Brood:	2,055,000	Eggs taken, No eggs fingerlings, or smolts planted or transferred.
	900,000	smolts released into Rapid River, 1969. 24.0/lb.
1968 Brood:	6,540,000	Eggs taken.
	757,376	eyed eggs shipped to Clearwater River drainage hatching channels. No fingerlings or smolts planted or transferred. Nearly 2,000,000 smolt-sized fish were lost to Kidney Disease in early 1970.
	3,172,000	smolts released into Rapid River, 1970. 20.0/lb.
1969 Brood:	5,171,697	Eggs taken.
	<u>497,000</u>	Eyed eggs shipped to Dworshak Nat'l Hatchery to start Kooskia Nat'l Hatchery.
	4,300,000	Eggs kept at Rapid River. No fingerlings planted or transferred, 1970.
	2,718,720	smolts released into Rapid River, 1971. 21.0/lb.

Appendix III. Continued

1970 Brood:	14,560,28	eggs taken.	
	4,417,454	green eggs shipped to Sweetwater Eyeing Station	for Clearwater reintroduction.
	2,224,119	green eggs shipped to Kooskia Nat'l Hatchery.	
	526,516	green eggs shipped to Hayden Creek Hatchery.	
	<u>2,473,983</u>	eyed eggs shipped to Clearwater River drainage	hatching channels.
	9,642,072	eggs shipped.	
	4,607,736	eggs kept at Rapid River.	
Fingerling Plants, 1971:	200,520	planted in the Lemhi River.	
	353,970	planted in Decker Pond.	
	<u>100,000</u>	transferred to Sandpoint Hatchery.	
	654,584	fingerlings planted or transferred.	
Smolts Planted, 1972:	91,800	planted in the Lochsa River.	
	2,809,200	released into Rapid River.	19.4/lb.
1971 Brood:	6,038,785	eggs taken.	
	<u>600,496</u>	eyed eggs shipped to Hayden Creek Hatchery.	
	5,438,289	eggs kept at Rapid River.	
Fingerling Plants, 1972:	53,562	planted in the Lemhi River.	
	104,300	planted in Red River.	
	29,800	planted in Ten Mile Creek (Clearwater).	
	44,700	planted in American River.	
	14,900	planted in Papoose Creek.	
	59,600	planted in Brushy Fork.	
	44,700	planted in Fish Creek.	
	14,900	planted in Post Office Creek.	

Appendix I11. Continued.

Fingerling Plants, 1972: (con't)	44,700	planted in Squaw Creek (Lochsa).
	61,500	planted in Lochsa River.
	60,000	planted in Ten Mile Creek (Clearwater).
	200,880	transferred to Sandpoint Hatchery.
	174,300	transferred to Decker Pond.
	74,700	transferred to Decker Pond.
	<u>152,305</u>	transferred to Decker Pond.
	1,134,847	total fingerlings planted or transferred.
Smolt Plants, 1973:	197,303	planted in the South Fork of the Clearwater River drainage.
	2,908,425	released into Rapid River. 17.0/lb.
1972 Brood:	15,072,604	eggs taken.
	5,256,662	green eggs shipped to Sweetwater Eyeing Station (Clearwater reintroduction).
	1,881,024	green shipped to Hayden Creek Hatchery.
	1,131,334	eyed eggs shipped to Hayden Creek Hatchery.
	<u>1,293,592</u>	eyed eggs shipped to Red River Hatching Channel.
	9,562,612	total eggs shipped.
	4,878,017	eggs kept at Rapid River.
Fingerling Plants, 1973:	None.	
	2,707,917	released into Rapid River. 17.5/lb.
1973 Brood:	13,510,464	eggs taken.
	3,915,900	green eggs shipped to Sweetwater Eyeing Station (Clearwater reintroduction).
	1,295,424	green eggs shipped to Hayden Creek Hatchery.
	104,760	green eggs shipped to Hagerman Hatchery.
	502,200	eyed eggs shipped to Crooked River Hatching Channel.

Appendix III. Continued.

1973 Brood (con't): 702,000 eyed eggs shipped to Kooskia National Hatchery.
 806,400 eyed eggs shipped to Hayden Creek Hatchery.
 504,000 eyed eggs shipped to Minnesota for walleye trade.
 7,830,684 total eggs shipped.
 5,302,677 eggs kept at Rapid River.

Fingerling Plants, 1974: 210,734 transferred to Sandpoint Hatchery. 206,360
 transferred to Kooskia National Hatchery.
 36,400 planted in Ten Mile Creek.
 52,080 planted in Ten Mile Creek.
 18,200 planted in Newsome Creek.
 633,000 planted in the Lemhi River.
 10,428 planted in Capehorn Creek.
 1,167,202 total fingerlings planted or transferred.

Smolt Plants, 1975: 117,000 planted in the S.F. of the Clearwater River.
 3,373,700 released into Rapid River. 14.8/lb.

1974 Brood: 6,890,186 eggs taken.
 809,400 eyed eggs shipped to Hayden Creek Hatchery.
 407,012 eyed eggs shipped to Indian Creek Hatching Channel.
 1,216,412 total eggs shipped.
 5,203,276 eggs kept at Rapid River.

Fingerling Plants, 1975: 203,500 transferred to Sandpoint Hatchery.
 21,840 planted in Capehorn Creek.
 59,962 planted in Red River.
 30,750 planted in Newsome Creek.
 10,250 planted in Ten Mile Creek.
 1,140,300 planted in the Lemhi River.
 1,466,602 fingerlings planted or transferred.

Smolt plants, 1976: 205,700 planted in the S.F. of the Clearwater River.
 3,564,640 released into Rapid River. 18.4/lb.

Appendix III. Continued.

1975 Brood:	8,503,606 eggs taken.	
	2,363,200 green eggs shipped to Sweetwater Eyeing Station (Clearwater reintroduction).	
	252,200 eyed eggs shipped to Mullan Hatchery.	
	255,000 eyed eggs shipped to Hayden Creek Hatchery.	
	<u>280,659</u> eyed eggs shipped to Indian Creek Hatching Channel.	
	3,151,059 eggs shipped.	
	4,906,492 kept at Rapid River.	
Fingerling Plants, 1976:	34,000 planted in Ten Mile Creek.	
	156,000 planted in the Lemhi River.	
	65,960 planted in the S.F. of the Clearwater River.	
	206,400 planted in Decker Pond.	
	206,400 planted in Decker Pond.	
	209,950 transferred to Sandpoint Hatchery.	
	<u>36,143</u> planted in Bear Valley Creek (upper Hayden Creek drainage).	
	914,844 total fingerlings planted or transferred.	
Smolt Plants, 1977:	249,750 planted in the S.F. of the Clearwater River.	
	3,170,922 released into Rapid River. 15.9/lb.	
1976 Brood:	11,492,878 eggs taken.	
	1,161,608 green eggs shipped to Mullan Hatchery.	
	2,937,994 green eggs shipped to Sweetwater Eyeing Station (Clearwater reintroduction).	

[illegible]

Appendix III. Continued.

Fingerling Plants, 1978: 723,000 transferred to Mackay Hatchery.
50,800 transferred to Decker Pond.
200,025 transferred to Red River Pond.
- 265,600 planted in the Lemhi River.
1,239,425 total fingerlings transferred or planted.

Smolts Planted, 1979: 44,373 planted in Newsome Creek.
156,362 planted in White Sands Creek.
200,735 total smolts planted.
3,018,448 released into Rapid River. 15.0/lb.

1978 Brood: 10,026,888 eggs taken.
767,322 green eggs shipped to Hayden Creek Hatchery.
970,728 green eggs shipped to Mackay Hatchery (500,000 eyed eggs to be
shipped to Oregon).
1,540,282 green eggs shipped to Sweetwater Eyeing Station
(Clearwater reintroduction).
706,936 green eggs shipped to Dworshak Nat'l Hatchery.
38,160 eyed eggs shipped to the University of Idaho.
10,864 eyed eggs shipped to the University of Idaho (Hayden Creek).
1,250,010 eyed eggs shipped to the Crooked River Hatching Channel.
- 249,969 eyed eggs shipped to Sweetwater Eyeing Station
(Clearwater reintroduction).
5,534,271 total eggs shipped.
4,219,846 eggs kept at Rapid River.

Appendix III. Continued.

Fingerling Plants, 1979:	232,500 transferred to Red River Pond.	
	<u>10,000</u> planted in Ten Mile Creek.	
	242,500 total fingerlings planted or transferred.	
Smolts Planted, 1980:	157,440 planted in White Sands Creek.	
	2,811,59 released into Rapid River.	15.0/lb.
1979 Brood:	5,646,722 ² eggs taken.	
	806,400 eyed eggs shipped to Hayden Creek Hatchery.	
	330,880 eyed eggs shipped to Dworshak Nat'l Hatchery.	
	1,137,280 total eggs shipped.	
	4,511,442 eggs kept at Rapid River.	
Fingerling Plants, 1980:	293,240 planted in Red River Pond.	
Smolt Plants, 1981:	1,001,700 planted in the Snake River at Hells Canyon Dam.	21.0/lb
	<u>2,375,715</u> released into Rapid River.	17.9/lb.
	3,377,415 total smolts planted or released.	
1980 Brood:	1,756,827 eggs taken.	
Fingerling Plants, 1981:	None. no eggs shipped.	
Smolt Plants, 1982:	1,473,733 released into Rapid River.	28.0/lb.

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Fingerling Plants, 1982: None.

1982 Brood:

7,420,450	eggs taken.	
493,346	green eggs shipped to Lookingglass Hatchery (Oregon).	These
	were later shipped to Dworshak National Hatchery.	
1,332,000	eyed eggs shipped to Pahsimeroi Hatchery.	
375,028	eyed eggs shipped to Dworshak National Hatchery.	
<u>125,055</u>	eyed eggs shipped to Hagerman National Hatchery.	
2,325,429	total eggs shipped.	
4,614,863	eggs kept at Rapid River.	

Fingerling Plants, 1983: 306,000 transferred to Red River Pond. 255.0/lb.

Smolt Plants, 1984: 3,246,197 released in Rapid River. 20/lb
500,850 planted in the Snake River at Hells Canyon Dam. 27/lb.

1983 Brood: 3,449,471 eggs taken and kept at Rapid River Hatchery. No eggs shipped.

Fingerling Plants, 1984: None.

Smolt Plants, 1984: None.